

Title (en)

SMART DENTAL IMPLANT SYSTEM FOR AMBULATORY DENTAL CARE

Title (de)

INTELLIGENTES ZAHNIMPLANTATSYSTEM ZUR AMBULANTEN ZAHNPFLEGE

Title (fr)

SYSTÈME D'IMPLANT DENTAIRE INTELLIGENT POUR SOINS DENTAIRES AMBULATOIRES

Publication

**EP 4165769 A1 20230419 (EN)**

Application

**EP 21821838 A 20210614**

Priority

- US 202063038494 P 20200612
- US 2021037223 W 20210614

Abstract (en)

[origin: WO2021252999A1] Smart dental implant systems and methods for ambulatory dental care are provided. In some embodiments, the disclosed subject matter includes a crown, adapted to mimic a patient's anatomy and location of the smart dental implant system. The crown can include piezoelectric nanoparticles, disposed on a surface of the crown and adapted to generate electricity from a patient's oral motion. In some embodiments, the disclosed subject matter includes an abutment, coupled to the crown. The abutment can include an energy harvesting circuit, operationally coupled to the piezoelectric nanoparticles and adapted to harvest the electricity, and a micro LED array, operationally coupled to the energy harvesting circuit and adapted to photobiomodulate surrounding peri-implant soft tissue.

IPC 8 full level

**H02N 2/18** (2006.01)

CPC (source: EP US)

**A61B 5/0088** (2013.01 - EP); **A61C 5/73** (2017.02 - EP); **A61C 8/0006** (2013.01 - US); **A61C 8/0012** (2013.01 - US); **A61C 8/005** (2013.01 - EP); **A61C 8/0068** (2013.01 - US); **A61C 19/04** (2013.01 - EP); **A61L 27/10** (2013.01 - US); **A61L 27/50** (2013.01 - US); **A61N 5/0601** (2013.01 - US); **A61N 5/0603** (2013.01 - EP); **H02N 2/18** (2013.01 - EP); **H02N 2/181** (2013.01 - US); **H02N 2/186** (2013.01 - US); **H10N 30/852** (2023.02 - US); **A61L 2400/12** (2013.01 - US); **A61L 2430/12** (2013.01 - US); **A61N 2005/0606** (2013.01 - EP US); **A61N 2005/0652** (2013.01 - EP US); **A61N 2005/0659** (2013.01 - EP)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

**WO 2021252999 A1 20211216**; CA 3186866 A1 20211216; CN 116458051 A 20230718; EP 4165769 A1 20230419; EP 4165769 A4 20240619; JP 2023538182 A 20230907; US 2023107743 A1 20230406

DOCDB simple family (application)

**US 2021037223 W 20210614**; CA 3186866 A 20210614; CN 202180055400 A 20210614; EP 21821838 A 20210614; JP 2022576518 A 20210614; US 202218064747 A 20221212